	Application No.	Applicant(s)
Notice of Allowability	09/943,027	CHEENIYIL ET AL.
	Examiner	Art Unit	
	NARESH VIG	3629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *communication filed 21 December 2007*.

2. ☒ The allowed claim(s) is/are _4-7_.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
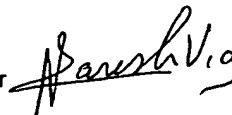
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Naresh Vig
Primary Examiner
Art Unit: 3629

DETAILED ACTION

DRAWINGS

The drawings have been approved by the examiner.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Applicant's invention is directed to a method for migrating an executing process instance to continue to execute as per a changed process definition. Each process instance is checked during it's enactment whether the process instance meets migration conditions. If the migration conditions are met, the corresponding process instance is migrated to a modified process definition. A method for executing a workflow in a WFMS according to the invention starts with defining an original process definition. The original process definition can be modified during the execution of the instances. For migrating each process instance during the execution of an original process definition, as and when a modification is defined by the user, each process instance is checked whether it meets a migration condition. When total migration is performed for the process instances in a Workflow management system, a set of worst case migration points (WMP) has to be defined.

When a user does not input the WMP, then process engine computes these points by taking a set D of changed nodes in the modified process definition. The process engine statically computes the set of worst case migration points WMP in cases where the user does not specify such WMP. A set P is determined, which includes all predecessor nodes in the process definition 200 for the nodes belonging to set D. A DeleteFlag is used for determining the predecessor nodes for the deleted node. A reachability matrix for the nodes belonging to set P is determined, which includes the information whether nodes belonging to set P are reachable from each other or not. In the reachability matrix, reachable nodes assigned a value of 1, and 0 for nodes which are not reachable.

A set of worst case migration points is determined from the reachability matrix R by selecting those predecessor nodes in the set P which are not reachable from any other node. If the addition of elements in a column in the reachability matrix R results in a value of one, then the predecessor node in set P corresponding to that column is taken as a member of the set of worst migration points WMP.

Prior Art "Tutorial: A Little Help With Alcatel-Lucent nmake" teaches:

A method for executing a work flow in a workflow management system (WFMS) having at least one process instance executing an original process definition, and migrating the said process instance to a changed process definition

checking each process instance and migrating original process definition to modified process definition.

defining a set including all nodes that are changed in the modified process definition with respect to the original process definition

migrating the process instance to the modified process such that said process instance executes said changed process definition

Prior Art "Tutorial: A Little Help With Alcatel-Lucent nmake" does not teach:

determining a set including all predecessor nodes for all nodes belonging to a set;

determining a reachability matrix for all nodes belonging to the set,

determining the set of worst case migration points from the reachability matrix R.

migrating the process instance to the modified process definition if its execution has not gone beyond anyone of said worst case migration points (WMP).

Prior Art Underwood US Patent 6,704,873 teaches:

checking each process instance and migrating original process definition to modified process definition.

migrating the process instance to the modified process such that said process instance executes said changed process definition.

Prior Art Underwood US Patent 6,704,873 does not teach:

determining a set including all predecessor nodes for all nodes belonging to a set;

determining a reachability matrix for all nodes belonging to the set,

determining the set of worst case migration points from the reachability matrix R.

migrating the process instance to the modified process definition if its

execution has not gone beyond anyone of said worst case migration points (WMP).

Prior Art Bowman-Amuah US Patent 6,256,773 teaches:

checking each process instance and migrating original process definition to

modified process definition.

defining a set including all nodes that are changed in the modified process

definition with respect to the original process definition

determining a matrix for all nodes belonging to the set

migrating the process instance to the modified process such that said process

instance executes said changed process definition.

Prior Art Bowman-Amuah US Patent 6,256,773 does not teach:

determining a set including all predecessor nodes for all nodes belonging to a

set;

determining a reachability matrix for all nodes belonging to the set,

determining the set of worst case migration points from the reachability matrix R.

migrating the process instance to the modified process definition if its

execution has not gone beyond anyone of said worst case migration points (WMP).

Prior Art Fries et al. US Patent 6,425,125 teaches:

determining a matrix for all nodes belonging to the set.

Prior Art Fries et al. US Patent 6,425,125 does not teach:

determining a set including all predecessor nodes for all nodes belonging to a

set;

determining a reachability matrix for all nodes belonging to the set,

determining the set of worst case migration points from the reachability matrix R.

migrating the process instance to the modified process definition if its

execution has not gone beyond anyone of said worst case migration points (WMP).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NARESH VIG whose telephone number is (571)272-6810. The examiner can normally be reached on Mon-Thu 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on (571) 272-6812. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Naresh Vig
Primary Examiner,
Art Unit 3629

January 14, 2008